



FCC 47 CFR PART 15 SUBPART B

Product Type : DLP Projector
Applicant : Qisda Corporation
Address : 157 Shan-Ying Road, Gueishan, Taoyuan 333, Taiwan, R.O.C.
Trade Name : acer
Model Number : P1500, M342, PE-833, Q1P1301
Reference Number : TL-16931
Test Specification : FCC 47 CFR PART 15 SUBPART B: Oct., 2012
ANSI C63.4: 2009
ICES-003: Issue 5
Receive Date : Dec. 16, 2013
Test Period : Dec. 17 ~ Dec. 24, 2013
Issue Date : Jan. 17, 2014

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|---------------|-----------------------------|------------|
| 00 | Dec. 27, 2013 | Initial Issue | |
| 01 | Jan. 10, 2014 | Revised report information. | Joyce Liao |
| 01 | Jan. 17, 2014 | Revised report information. | Joyce Liao |
| | | | |

Verification of Compliance

Issued Date: 2014/01/17

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Applicant : Qisda Corporation
Address : 157 Shan-Ying Road, Gueishan, Taoyuan 333, Taiwan, R.O.C.
Trade Name : acer
Model Number : P1500, M342, PE-833, Q1P1301
Reference Number : TL-16931
EUT Rated Voltage : AC 100-240V, 50-60Hz
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART B: Oct., 2012
ANSI C63.4: 2009
ICES-003: Issue 5

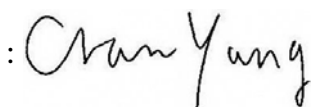
Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>

The above equipment has been tested by A Test Lab Techno Corp., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By : 
(Manager) (Cran Yang)


Reviewed By : 
(Testing Engineer) (Frank Lin)

TABLE OF CONTENTS

| | | |
|----------|--|-----------|
| 1 | General Information..... | 5 |
| 1.1. | Summary of Test Result..... | 5 |
| 1.2. | Measurement Uncertainty..... | 5 |
| 2 | EUT Description..... | 6 |
| 3 | Test Methodology | 7 |
| 3.1. | Decision of Test Mode | 7 |
| 3.2. | EUT Exercise Software..... | 7 |
| 3.3. | Configuration of Test System Details | 8 |
| 3.4. | Test Site Environment..... | 9 |
| 4 | Emission Test | 10 |
| 4.1. | Conducted Emission Measurement..... | 10 |
| 4.2. | Radiated Interference Measurement | 15 |
| 5 | EUT Photograph | 25 |

1 General Information

1.1. Summary of Test Result

| Emission | | | |
|--|--------------------|--------|--------------------|
| Standard | Item | Result | Remark |
| FCC 47 CFR PART 15 SUBPART B ANSI C63.4 ICES-003 | Conducted Emission | PASS | Meet Class B limit |
| FCC 47 CFR PART 15 SUBPART B ANSI C63.4 ICES-003 | Radiated Emission | PASS | Meet Class B limit |

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2. Measurement Uncertainty

| Test Item | Frequency Range | | Uncertainty (dB) |
|--------------------|---------------------|------------|------------------|
| Conducted Emission | 9kHz ~ 30MHz | | ± 2.02 |
| Radiated Emission | 30MHz ~ 1000MHz | Horizontal | ± 3.98 |
| | | Vertical | ± 3.62 |
| | 1000MHz ~ 18000MHz | Horizontal | ± 3.11 |
| | | Vertical | ± 3.07 |
| | 18000MHz ~ 40000MHz | Horizontal | ± 3.66 |
| | | Vertical | ± 3.54 |

2 EUT Description

| | |
|-----------------------------|---|
| Product Type | DLP Projector |
| Trade Name | acer |
| Model Number | P1500, M342, PE-833, Q1P1301 (The four model numbers differ from each other in selling region.) |
| Modify Description | The P1500, M342, PE-833, Q1P1301 are modify form original report (1302FE18-02). Different parts are list below: 1.Main board : 5E.2E601.001 - Himax HX6A29 change to ADI ADV7612 2.FAN: (a) 2C.10153.181 change to 2C.10181.011 (b) 2C.10120.191 change to 2C.10182.011 3.Chip board: 5E.1TV23.001 change to 5E.2E623.001 4.Ballast wire: 5K.0PN05.011 change to 5K.2E601.001 |
| Reference Number | TL-16931 |
| Highest Frequency Generated | 162 MHz |
| Applicant | Qisda Corporation 157 Shan-Ying Road, Gueishan, Taoyuan 333, Taiwan, R.O.C. |
| Manufacturer (1) | Qisda (Suzhou) Co., Ltd. No. 169, Zhujiang Road, New District, Suzhou, Jiangsu 215129, P.R. China |
| Manufacturer (2) | Qisda Mexicana S.A. De C.V. Calzada Venustiano Carranza, No. 88 Col. Plutarco Elias Calles 21376 Mexocali, B.C. Mexico C.P Mexico |
| Manufacturer (3) | Qisda Optronics (Suzhou) Co., Ltd. No.169, Zhujiang Road, New District, Suzhou, Jiangsu 215129, P.R. China |
| Manufacturer (4) | Qisda Corporation 157, Shan-Ying Road, Gueishan, Taoyuan 333, Taiwan |

Componet :

| Componet | Q'TY | Signal Cable Description |
|--------------------|------|-----------------------------|
| 1). D-SUB Cable | 1 | Shielded, 1.8m with 2 cores |
| 2). AC Power Cable | 1 | Non-Shielded, 1.8m |

I/O Port Description :

| I/O Port Types | Q'TY | Test Description |
|--------------------|------|-----------------------------|
| 1). Audio in Port | 1 | Connected to PC |
| 2). Audio out Port | 1 | Connected to Earphone |
| 3). D-SUB IN Port | 1 | Connected to PC |
| 4). D-SUB OUT Port | 1 | Connected to Monitor |
| 5). Video Port | 1 | Connected to DVD Player |
| 6). S-Video Port | 1 | Connected to DVD Player |
| 7). HDMI Port | 1 | Connected to PC |
| 8). Mini USB Port | 1 | Connected to PC |
| 9). RS-232 Port | 1 | Connected to Terminal |
| 10).AC Power Port | 1 | Connected to AC Power Cable |

3 Test Methodology

3.1. Decision of Test Mode

3.1.1. The following test mode(s) were scanned during the preliminary test:

| Pre-Test Mode |
|--|
| Mode 1: D-SUB in 1920 x 1080 / 60Hz + D-SUB out Mode |
| Mode 2: S-Video / 60Hz Mode |
| Mode 3: Video / 60Hz Mode |
| Mode 4: HDMI 1080P / 60Hz Mode |

3.1.2. After the preliminary scan, the following test mode was found to produce the highest emission level.

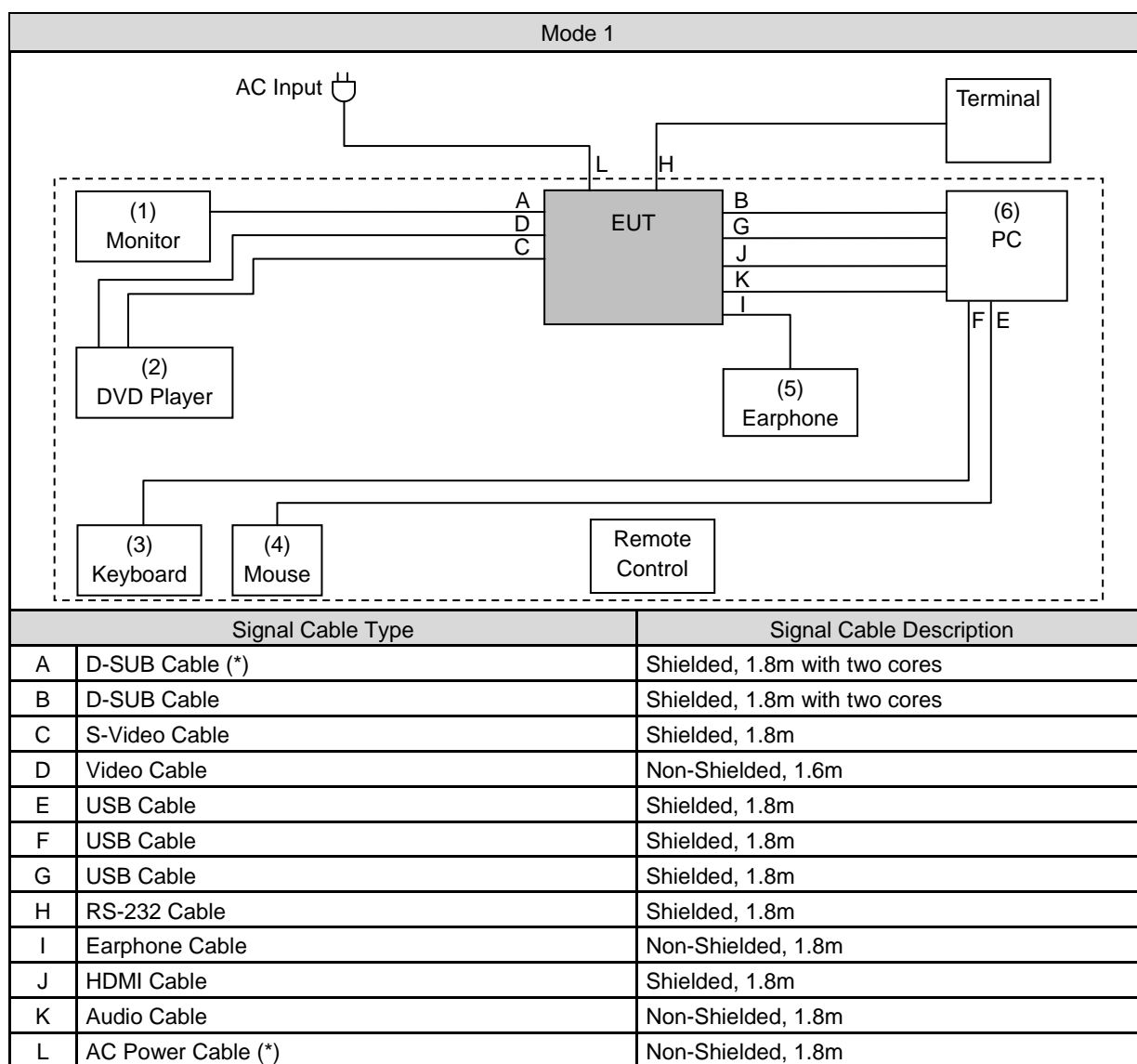
| Final Test Mode | | | |
|-----------------|--------------------|------------|--------|
| Emission | Conducted Emission | | Mode 1 |
| | Radiated Emission | Below 1GHz | Mode 1 |
| | | Above 1GHz | Mode 1 |

Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.

3.2. EUT Exercise Software

| | |
|---|--|
| 1 | Setup the EUT and simulators as shown on 3.3. |
| 2 | Turn on the power of all equipment. |
| 3 | Exercise the test program Burn in V5.3. |
| 4 | According to the user manual choose display mode and adjust resolution. |
| 5 | The projector (EUT) will start to operate and display the video figure from the signal source. |
| 6 | Adjust the projector (EUT) display brightness and contrast to maximum level. |
| 7 | Start to test till get the worst reading. |
| 8 | Repeat the above procedure (3) to (7). |

3.3. Configuration of Test System Details



Note: (*) = Accessory by manufacturer

| Devices Description | | | | | |
|---------------------|-----------------|-----------------|---|--------------------|--|
| Product | Manufacturer | Model Number | Serial Number | Power Cord | |
| (1) LCD Monitor | DELL | U2410f | CN-OJ257M-72872-09J-01AL | Non-Shielded, 1.8m | |
| (2) DVD Player | SONY | DVP-NS708HP | 5202915 | Non-Shielded, 1.5m | |
| (3) Keyboard | HP | KU-0316 | BC3870DVBV11PJ | Power by PC | |
| (4) Mouse | DELL | M-UK DEL3 | HC7490C10LQ | Power by PC | |
| (5) Earphone | Audio-technical | ATH-C101 | N/A | N/A | |
| (6) PC | DELL | Insprion 560 MT | 724H6-U4239-PPXGK-2K WT3-K3F4HX16-96072 | Non-Shielded, 1.8m | |

3.4. Test Site Environment

| Items | Test Item | Required (IEC 60068-1) | Actual |
|----------------------------|--|------------------------|--------|
| Temperature (°C) | FCC part 15: 15.107 Conducted Emission | 15-35 | 26 |
| Humidity (%RH) | | 25-75 | 60 |
| Barometric pressure (mbar) | | 860-1060 | 950 |
| Temperature (°C) | FCC part 15: 15.109 Radiated Emission | 15-35 | 26 |
| Humidity (%RH) | | 25-75 | 60 |
| Barometric pressure (mbar) | | 860-1060 | 950 |

4 Emission Test

4.1. Conducted Emission Measurement

4.1.1. Limit

A.C. Mains Conducted Interference Limit

| Frequency (MHz) | Class A (dBuV) | | Class B (dBuV) | |
|-----------------|----------------|---------|----------------|---------|
| | Quasi-peak | Average | Quasi-peak | Average |
| 0.15 - 0.5 | 79 | 66 | 66 - 56 | 56 - 46 |
| 0.50 - 5.0 | 73 | 60 | 56 | 46 |
| 5.0 - 30.0 | 73 | 60 | 60 | 50 |

Note: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

4.1.2. Test Instruments

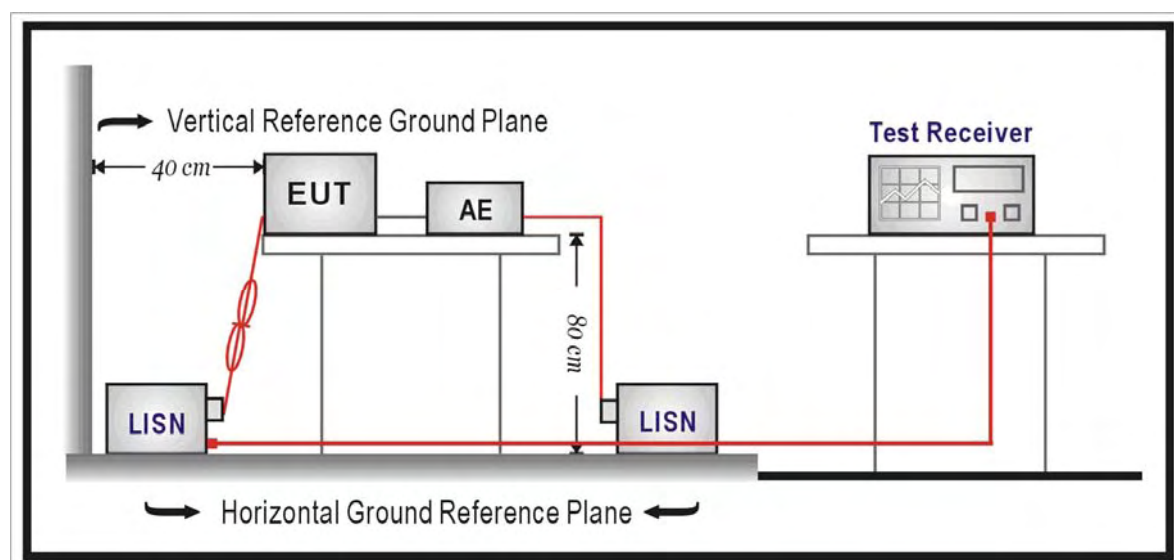
| Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Remark |
|---------------|--------------|--------------|---------------|------------|--------|
| Test Receiver | R&S | ESCI | 100367 | 06/06/2013 | (1) |
| LISN | R&S | ENV216 | 101040 | 03/04/2013 | (1) |
| LISN | R&S | ENV216 | 101041 | 03/04/2013 | (1) |
| Test Site | ATL | TE02 | TE02 | N.C.R. | ----- |

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

4.1.3. Test Setup

A.C. mains setup



4.1.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

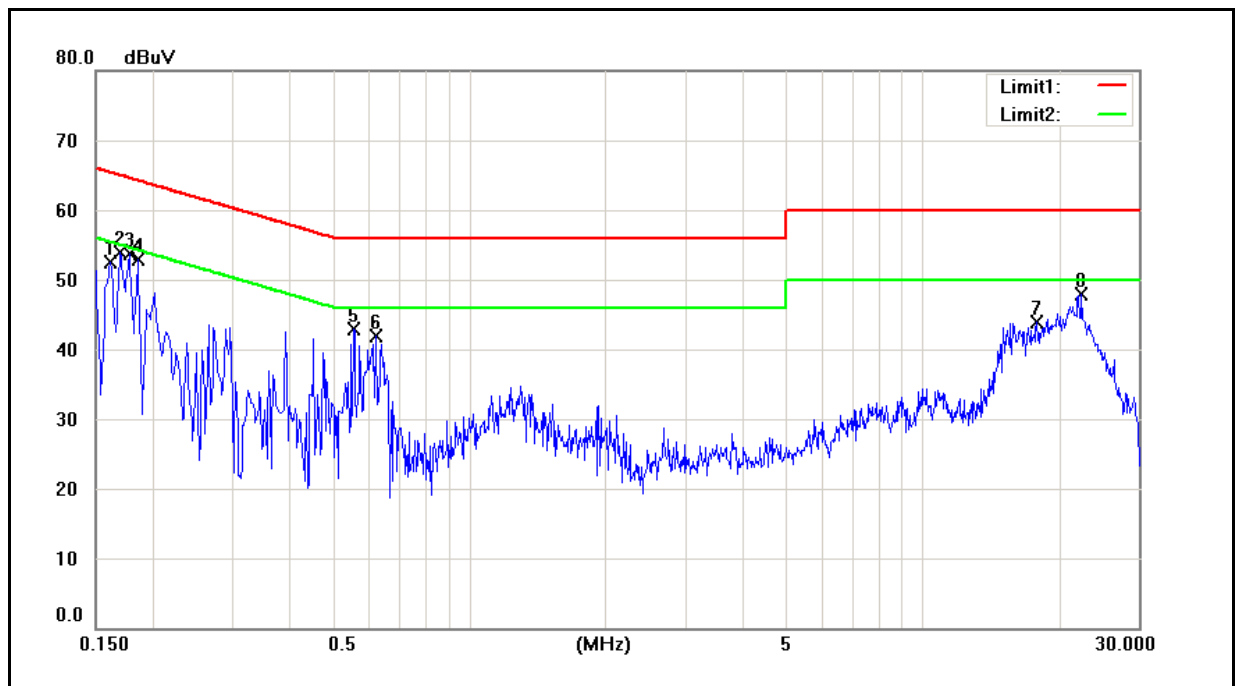
For A.C. mains conducted interference, measured both sides of A.C. lines and carried out using quasi-peak and average detector receivers of maximum conducted interference.

Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz. The equipment under test (EUT) shall meet the limits in section 4.1.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average detector and quasi-peak detector measured in accordance with the methods described of related standard. The voltage limits shall be met. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

If the reading of the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 s at each measurement frequency; the higher reading shall be recorded with the exception of any brief isolated high reading which shall be ignored.

4.1.5. Test Result

| | | | |
|---------------|----------------------|----------------------|--------------|
| Standard: | FCC Part 15B Class B | Line: | L1 |
| Test item: | Conducted Emission | Power: | AC 120V/60Hz |
| Model Number: | P1500 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Mode: | 1 | Date: | 12/17/2013 |
| | | Test By: | Frank Lin |
| Description: | | | |

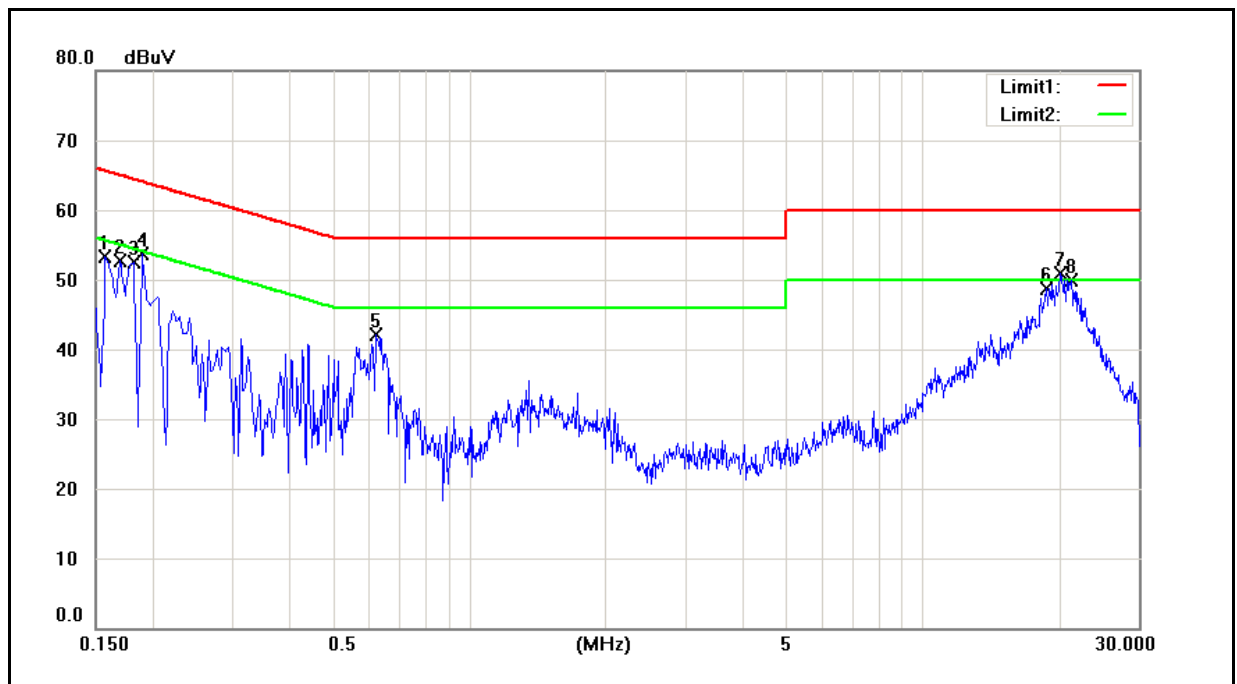


| No. | Frequency (MHz) | QP reading (dBuV) | AVG reading (dBuV) | Correction factor (dB) | QP result (dBuV) | AVG result (dBuV) | QP limit (dBuV) | AVG limit (dBuV) | QP margin (dB) | AVG margin (dB) | Remark |
|-----|--------------------|-------------------------|--------------------------|------------------------------|------------------------|-------------------------|-----------------------|------------------------|----------------------|-----------------------|--------|
| 1 | 0.1620 | 42.19 | 30.86 | 9.62 | 51.81 | 40.48 | 65.36 | 55.36 | -13.55 | -14.88 | Pass |
| 2 | 0.1700 | 43.14 | 27.33 | 9.62 | 52.76 | 36.95 | 64.96 | 54.96 | -12.20 | -18.01 | Pass |
| 3 | 0.1780 | 42.54 | 29.13 | 9.62 | 52.16 | 38.75 | 64.58 | 54.58 | -12.42 | -15.83 | Pass |
| 4 | 0.1860 | 41.18 | 24.27 | 9.62 | 50.80 | 33.89 | 64.21 | 54.21 | -13.41 | -20.32 | Pass |
| 5 | 0.5580 | 24.18 | 15.04 | 9.63 | 33.81 | 24.67 | 56.00 | 46.00 | -22.19 | -21.33 | Pass |
| 6 | 0.6220 | 29.61 | 16.51 | 9.64 | 39.25 | 26.15 | 56.00 | 46.00 | -16.75 | -19.85 | Pass |
| 7 | 17.9380 | 26.69 | 19.46 | 9.81 | 36.50 | 29.27 | 60.00 | 50.00 | -23.50 | -20.73 | Pass |
| 8 | 22.4860 | 27.04 | 19.79 | 9.79 | 36.83 | 29.58 | 60.00 | 50.00 | -23.17 | -20.42 | Pass |

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

| | | | |
|---------------|----------------------|----------------------|--------------|
| Standard: | FCC Part 15B Class B | Line: | N |
| Test item: | Conducted Emission | Power: | AC 120V/60Hz |
| Model Number: | P1500 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Mode: | 1 | Date: | 12/17/2013 |
| | | Test By: | Frank Lin |
| Description: | | | |



| No. | Frequency (MHz) | QP reading (dBuV) | AVG reading (dBuV) | Correction factor (dB) | QP result (dBuV) | AVG result (dBuV) | QP limit (dBuV) | AVG limit (dBuV) | QP margin (dB) | AVG margin (dB) | Remark |
|-----|-----------------|-------------------|--------------------|------------------------|------------------|-------------------|-----------------|------------------|----------------|-----------------|--------|
| 1 | 0.1580 | 41.65 | 28.45 | 9.63 | 51.28 | 38.08 | 65.57 | 55.57 | -14.29 | -17.49 | Pass |
| 2 | 0.1700 | 42.47 | 26.28 | 9.63 | 52.10 | 35.91 | 64.96 | 54.96 | -12.86 | -19.05 | Pass |
| 3 | 0.1820 | 41.18 | 27.12 | 9.63 | 50.81 | 36.75 | 64.39 | 54.39 | -13.58 | -17.64 | Pass |
| 4 | 0.1900 | 40.51 | 24.20 | 9.63 | 50.14 | 33.83 | 64.04 | 54.04 | -13.90 | -20.21 | Pass |
| 5 | 0.6260 | 30.06 | 16.69 | 9.64 | 39.70 | 26.33 | 56.00 | 46.00 | -16.30 | -19.67 | Pass |
| 6 | 18.7860 | 33.49 | 26.73 | 9.88 | 43.37 | 36.61 | 60.00 | 50.00 | -16.63 | -13.39 | Pass |
| 7 | 20.0700 | 34.94 | 28.16 | 9.85 | 44.79 | 38.01 | 60.00 | 50.00 | -15.21 | -11.99 | Pass |
| 8 | 21.2740 | 33.80 | 26.04 | 9.90 | 43.70 | 35.94 | 60.00 | 50.00 | -16.30 | -14.06 | Pass |

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

4.1.6. Test Photograph

Test Mode: Mode 1

Description: Front View of Conducted Test



Test Mode: Mode 1

Description: Back View of Conducted Test



4.2. Radiated Interference Measurement

4.2.1. Limit

Under 1GHz test shall not exceed following value

| FCC 47 CFR PART 15 SUBPART B | | | | |
|------------------------------|--------------|--------|--------------|--------|
| Frequency range (MHz) | Class A | | Class B | |
| | Distance (m) | dBuV/m | Distance (m) | dBuV/m |
| 30 to 88 | 10 | 39 | 3 | 40 |
| 88 to 216 | 10 | 43.5 | 3 | 43.5 |
| 216 to 960 | 10 | 46.4 | 3 | 46 |
| Above 960 | 10 | 49.5 | 3 | 54 |

| CISPR 22 | | | | |
|-----------------------|--------------|--------|--------------|--------|
| Frequency range (MHz) | Class A | | Class B | |
| | Distance (m) | dBuV/m | Distance (m) | dBuV/m |
| 30 to 230 | 10 | 40 | 10 | 30 |
| 230 to 1000 | 10 | 47 | 10 | 37 |

Above 1GHz test shall not exceed following value

| Frequency (MHz) | dBuV/m (Distance 3m) | | | |
|-----------------|----------------------|------|---------|------|
| | Class A | | Class B | |
| | Average | Peak | Average | Peak |
| 1000 ~ 40000 | 60 | 80 | 54 | 74 |

- Remark:
1. The tighter limit shall apply at the edge between two frequency bands.
 2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
 3. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
 4. Peak detector limit is corresponding to 20 dB above the maximum permitted average limit.

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

| Highest frequency generated or used in the device or in which the device operated or tunes (MHz) | Upper frequency of measurement range (MHz) |
|--|--|
| Below 1.75 | 30 |
| 1.75-108 | 1000 |
| 108-500 | 2000 |
| 500-1000 | 5000 |
| Above 1000 | 5th harmonic of the highest frequency or 40GHz, whichever is lower |

4.2.2. Test Instruments

| 10 Meter Chamber | | | | | |
|-------------------|--------------------------------|--------------|---------------|------------|--------|
| Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Remark |
| Pre Amplifier | Agilent | 8447D | 2944A11120 | 01/10/2013 | (1) |
| Pre Amplifier | Agilent | 8447D | 2944A11119 | 01/10/2013 | (1) |
| Test Receiver | R&S | ESCI | 100722 | 10/26/2013 | (1) |
| Test Receiver | R&S | ESCI | 101000 | 12/03/2013 | (1) |
| Broadband Antenna | SCHWARZBECK MESS-ELEKTRONIK | VULB 9160 | 9160-3268 | 06/05/2013 | (1) |
| Broadband Antenna | SCHWARZBECK MESS-ELEKTRONIK | VULB 9160 | 9160-3273 | 11/29/2013 | (1) |
| Test Site | ATL | TE06 | TE06 | 08/10/2013 | (1) |

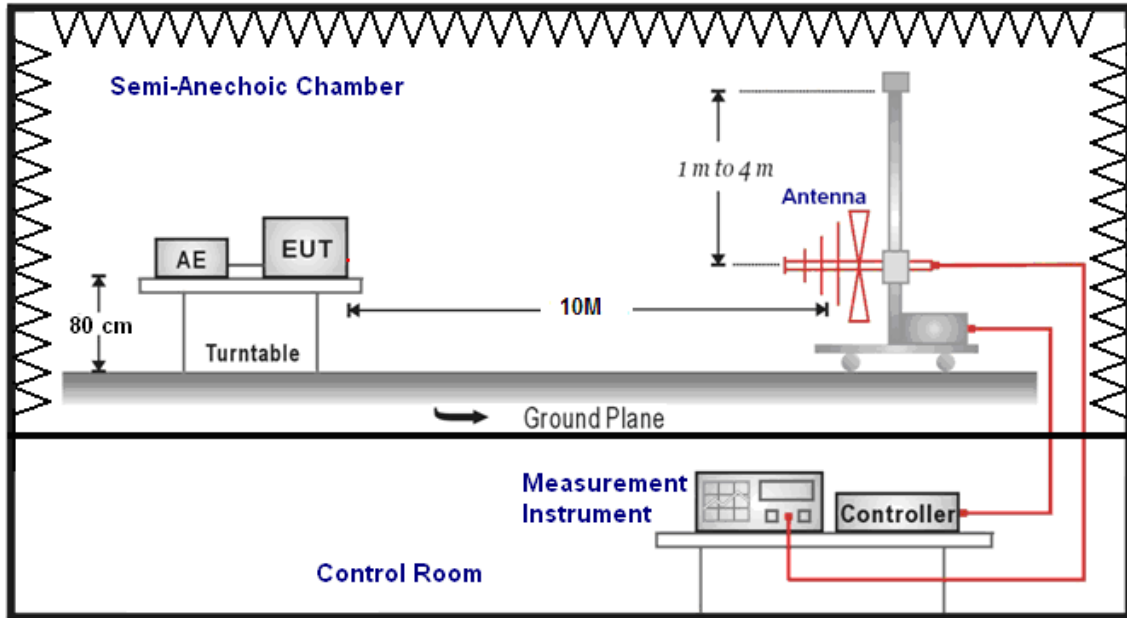
| 3 Meter Chamber | | | | | |
|----------------------------|--------------------------------|--------------|---------------|------------|--------|
| Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Remark |
| Spectrum Analyzer | Agilent | E4445A | MY46181986 | 05/16/2013 | (1) |
| Amplifier | EM | EM330 | 060545 | 11/18/2013 | (1) |
| Amplifier | Mini-Circuits | ZVA-213-S+ | 467900926 | 05/26/2013 | (1) |
| RF Pre-selector | Agilent | N9039A | MY46520255 | 05/16/2013 | (1) |
| Horn Antenna (1~18GHz) | ETS-Lindgren | 3117 | 00128055 | 08/08/2013 | (1) |
| Horn Antenna (18~40GHz) | SCHWARZBECK MESS-ELEKTRONIK | BBHA9170 | 9170-320 | 06/13/2013 | (1) |
| Test Site | ATL | TE09 | TE09 | 05/09/2013 | (1) |

Remark: ⁽¹⁾ Calibration period 1 year. ⁽²⁾ Calibration period 2 years.

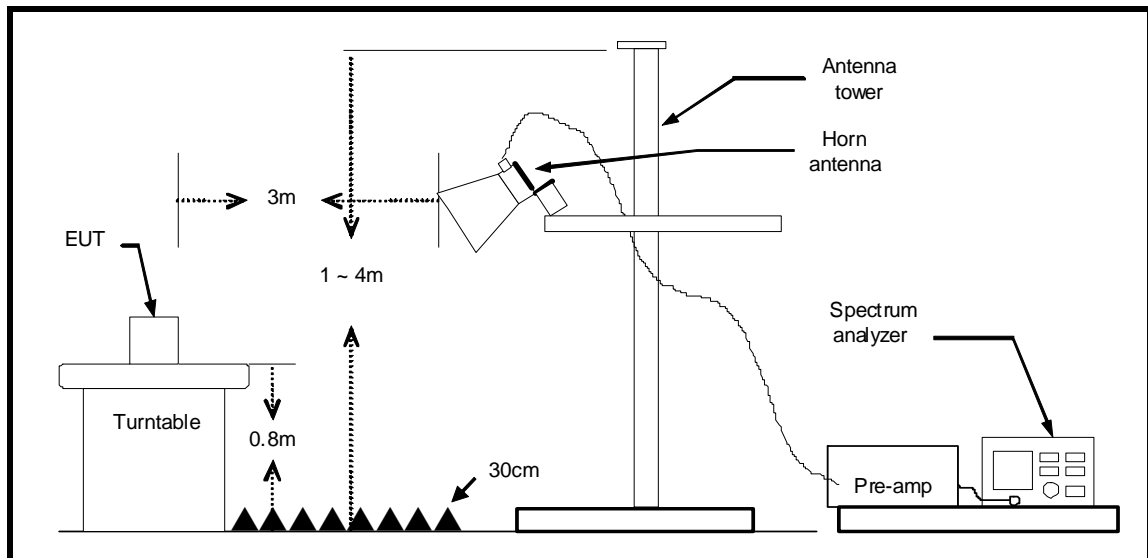
Note: N.C.R. = No Calibration Request.

4.2.3. Setup

Below 1GHz



Above 1GHz



4.2.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters for under 1GHz, and 3 meter for above 1GHz, the highest frequency performed according to internal source frequency of the EUT, the specification was below:

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|--|---|
| Below 1.705 | 30 |
| 1.705 - 108 | 1000 |
| 108 - 500 | 2000 |
| 500 - 1000 | 5000 |
| Above 1000 | 5th harmonic of the highest frequency or 40 GHz, whichever is lower |

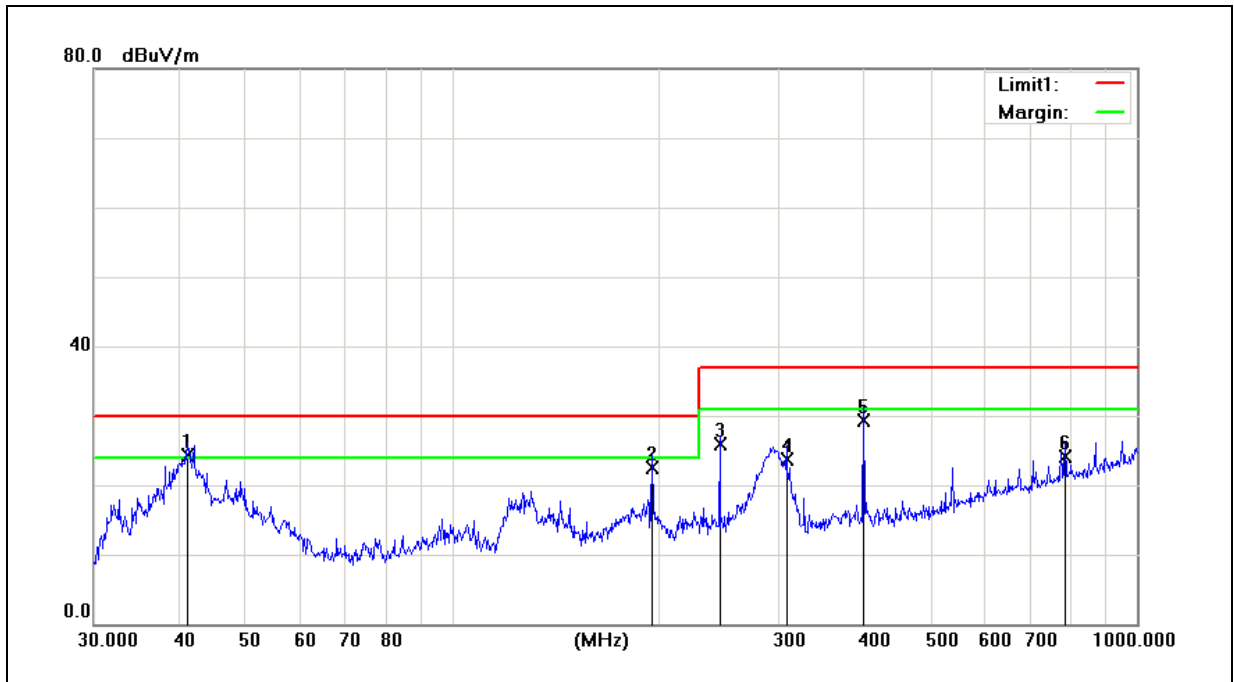
According to this standard paragraph 15.109, as an alternative to the radiated emission limits, digital devices may be shown to comply with the standards contained in Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement".

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120 kHz. Radiated was performed at an antenna to EUT distance of 10 meters.

4.2.5. Test Result

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | CISPR 22 Class B | Test Distance: | 10m |
| Test item: | Radiated Emission | Power: | AC 120V/60Hz |
| Model Number: | P1500 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Mode: | 1 | Date: | 12/24/2013 |
| Ant.Polar.: | Horizontal | Test By: | Frank Lin |

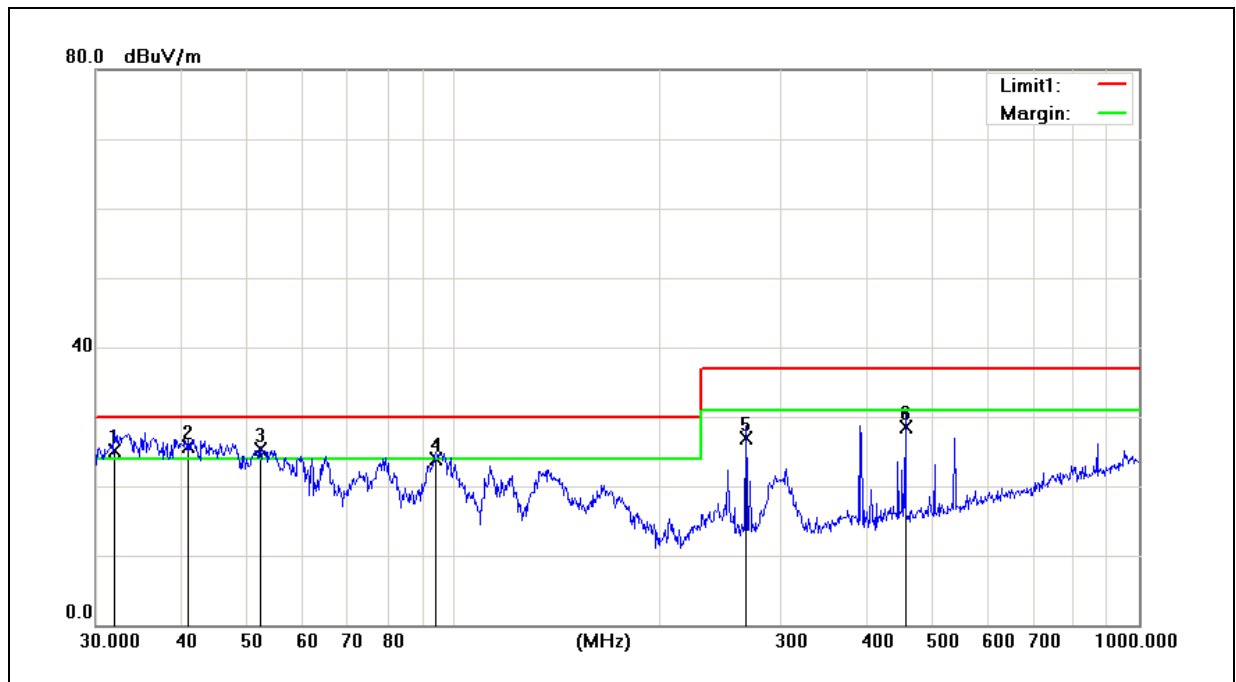


| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Height (cm) | Degree (°) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|-------------|------------|--------|
| 1 | 41.1320 | 39.64 | -15.34 | 24.30 | 30.00 | -5.70 | 100 | 39 | QP |
| 2 | 195.8220 | 38.69 | -16.09 | 22.60 | 30.00 | -7.40 | 400 | 199 | QP |
| 3 | 245.9508 | 39.78 | -13.88 | 25.90 | 37.00 | -11.10 | 400 | 74 | QP |
| 4 | 307.8312 | 35.55 | -11.75 | 23.80 | 37.00 | -13.20 | 300 | 88 | QP |
| 5 | 399.0300 | 39.56 | -10.16 | 29.40 | 37.00 | -7.60 | 200 | 155 | QP |
| 6 | 785.0934 | 26.68 | -2.58 | 24.10 | 37.00 | -12.90 | 200 | 250 | QP |

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | CISPR 22 Class B | Test Distance: | 10m |
| Test item: | Radiated Emission | Power: | AC 120V/60Hz |
| Model Number: | P1500 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Mode: | 1 | Date: | 12/24/2013 |
| Ant.Polar.: | Vertical | Test By: | Frank Lin |

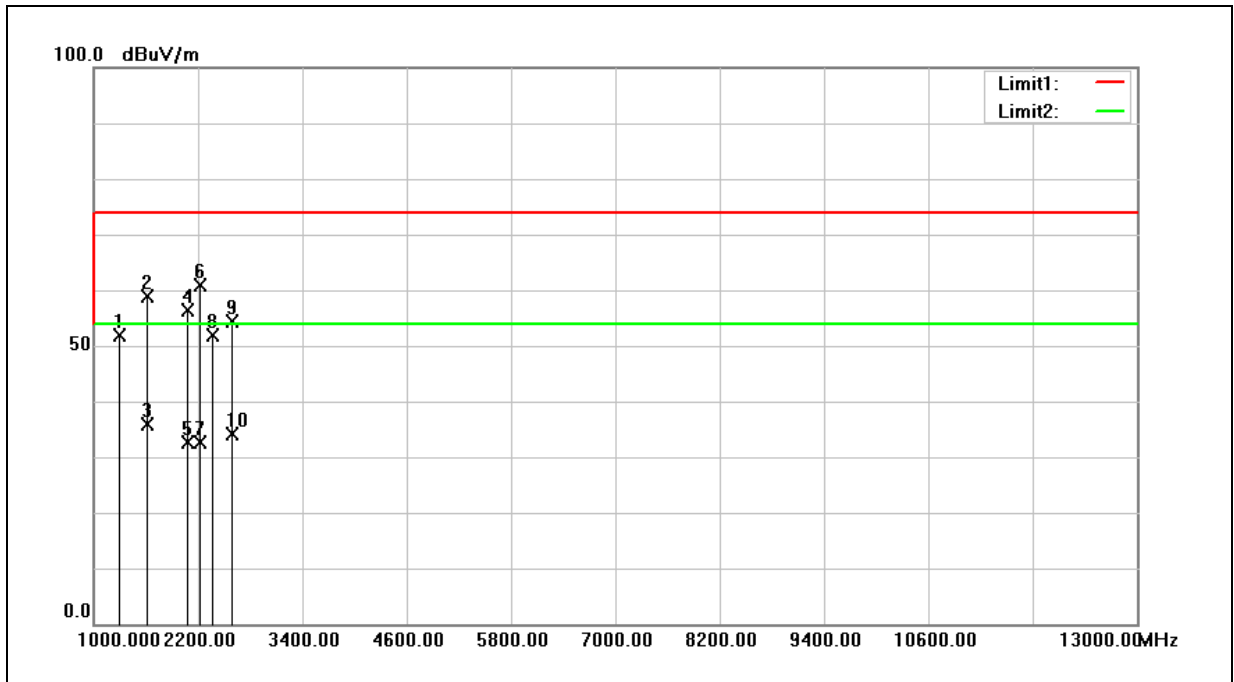


| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Height (cm) | Degree (°) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|-------------|------------|--------|
| 1 | 31.9546 | 40.98 | -15.78 | 25.20 | 30.00 | -4.80 | 200 | 315 | QP |
| 2 | 40.9881 | 40.48 | -14.68 | 25.80 | 30.00 | -4.20 | 300 | 127 | QP |
| 3 | 52.2080 | 39.64 | -14.24 | 25.40 | 30.00 | -4.60 | 100 | 173 | QP |
| 4 | 94.0980 | 42.04 | -18.14 | 23.90 | 30.00 | -6.10 | 100 | 200 | QP |
| 5 | 266.6090 | 39.06 | -12.16 | 26.90 | 37.00 | -10.10 | 200 | 191 | QP |
| 6 | 455.9058 | 35.98 | -7.48 | 28.50 | 37.00 | -8.50 | 300 | 17 | QP |

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

| | | | |
|---------------|----------------------|----------------------|--------------|
| Standard: | FCC Part 15B Class B | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | AC 120V/60Hz |
| Model Number: | P1500 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Mode: | 1 (1GHz~13GHz) | Date: | 12/17/2013 |
| Ant.Polar.: | Horizontal | Test By: | Frank Lin |

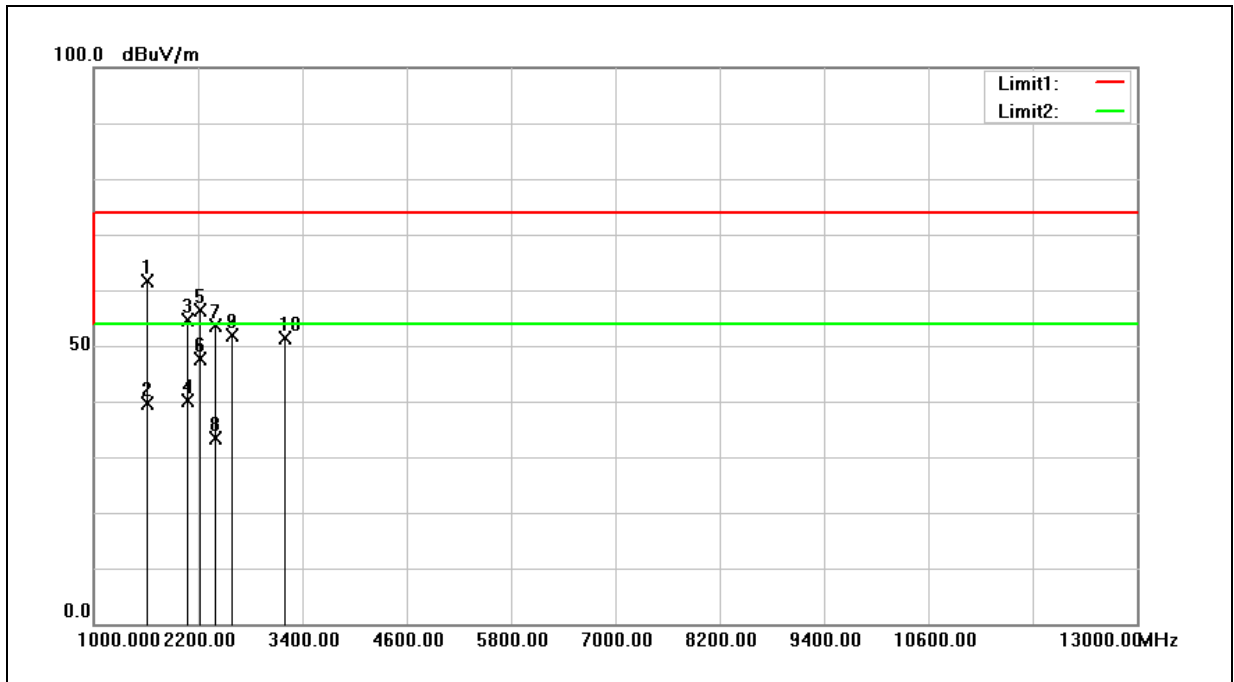


| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 1288.000 | 75.49 | -23.52 | 51.97 | 74.00 | -22.03 | peak |
| 2 | 1612.000 | 81.25 | -22.45 | 58.80 | 74.00 | -15.20 | peak |
| 3 | 1612.000 | 58.24 | -22.45 | 35.79 | 54.00 | -18.21 | AVG |
| 4 | 2080.000 | 75.55 | -19.26 | 56.29 | 74.00 | -17.71 | peak |
| 5 | 2080.000 | 51.78 | -19.26 | 32.52 | 54.00 | -21.48 | AVG |
| 6 | 2224.000 | 80.01 | -19.02 | 60.99 | 74.00 | -13.01 | peak |
| 7 | 2224.000 | 51.59 | -19.02 | 32.57 | 54.00 | -21.43 | AVG |
| 8 | 2368.000 | 70.55 | -18.76 | 51.79 | 74.00 | -22.21 | peak |
| 9 | 2596.000 | 72.51 | -18.25 | 54.26 | 74.00 | -19.74 | peak |
| 10 | 2596.000 | 52.32 | -18.25 | 34.07 | 54.00 | -19.93 | AVG |

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

| | | | |
|---------------|----------------------|----------------------|--------------|
| Standard: | FCC Part 15B Class B | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | AC 120V/60Hz |
| Model Number: | P1500 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Mode: | 1 (1GHz~13GHz) | Date: | 12/17/2013 |
| Ant.Polar.: | Vertical | Test By: | Frank Lin |



| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 1612.000 | 84.16 | -22.45 | 61.71 | 74.00 | -12.29 | peak |
| 2 | 1612.000 | 62.12 | -22.45 | 39.67 | 54.00 | -14.33 | AVG |
| 3 | 2080.000 | 73.89 | -19.26 | 54.63 | 74.00 | -19.37 | peak |
| 4 | 2080.000 | 59.40 | -19.26 | 40.14 | 54.00 | -13.86 | AVG |
| 5 | 2224.000 | 75.43 | -19.02 | 56.41 | 74.00 | -17.59 | peak |
| 6 | 2224.000 | 66.75 | -19.02 | 47.73 | 54.00 | -6.27 | AVG |
| 7 | 2392.000 | 72.35 | -18.72 | 53.63 | 74.00 | -20.37 | peak |
| 8 | 2392.000 | 52.14 | -18.72 | 33.42 | 54.00 | -20.58 | AVG |
| 9 | 2596.000 | 70.20 | -18.25 | 51.95 | 74.00 | -22.05 | peak |
| 10 | 3196.000 | 68.26 | -16.91 | 51.35 | 74.00 | -22.65 | peak |

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

4.2.6. Test Photograph

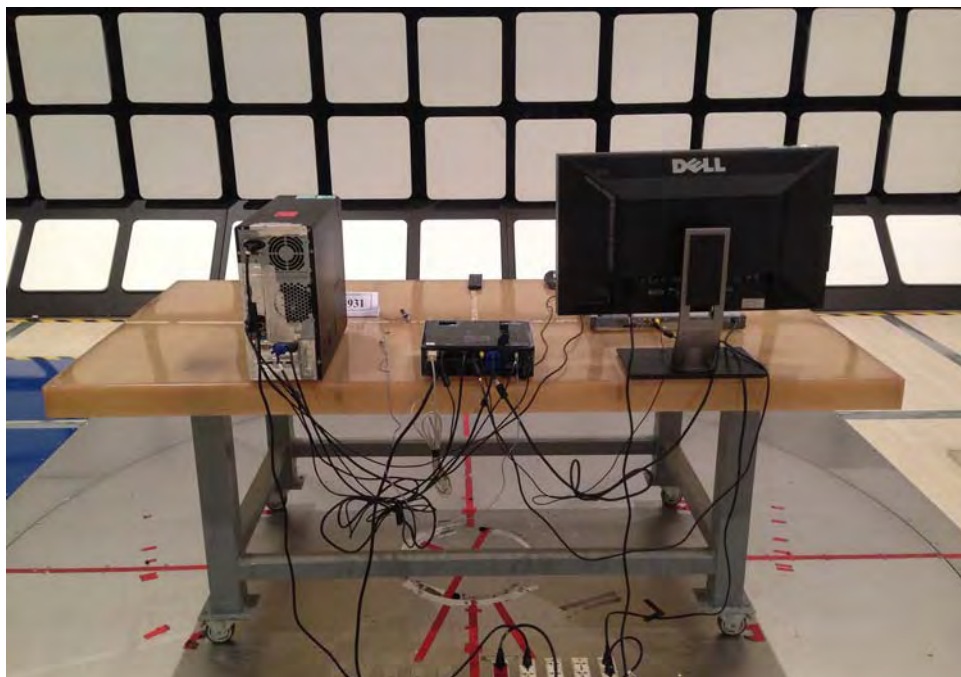
Test Mode: Mode 1

Description: Front View of Radiated Emission Test _ Below 1GHz



Test Mode: Mode 1

Description: Back View of Radiated Emission Test _ Below 1GHz



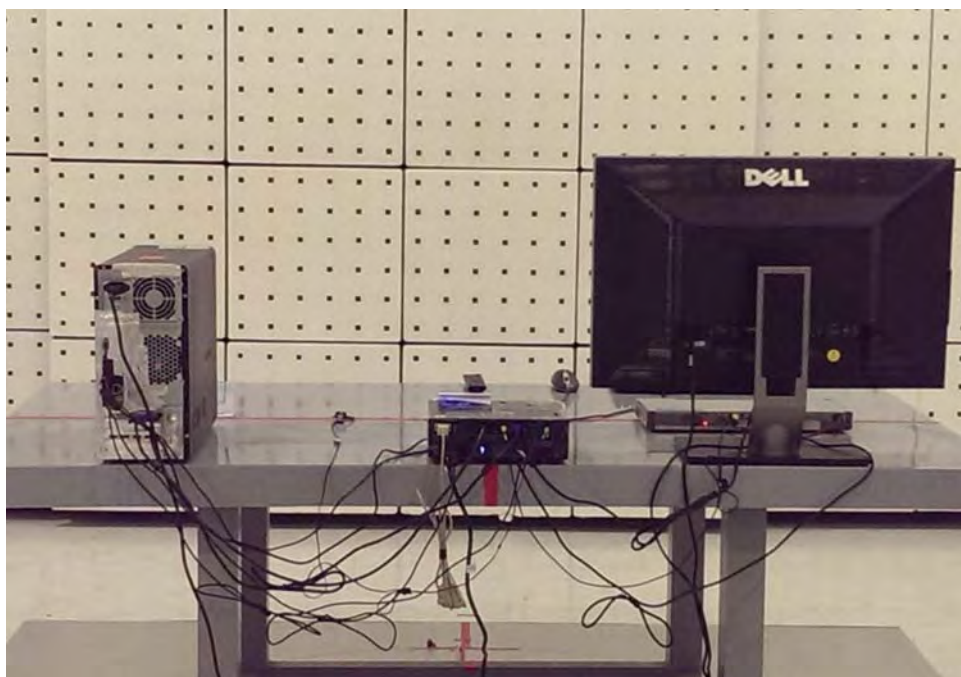
Test Mode: Mode 1

Description: Front View of Radiated Emission Test _ Above 1GHz



Test Mode: Mode 1

Description: Back View of Radiated Emission Test _ Above 1GHz



5 EUT Photograph

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



(5) EUT Photo



(6) EUT Photo



(7) EUT Photo



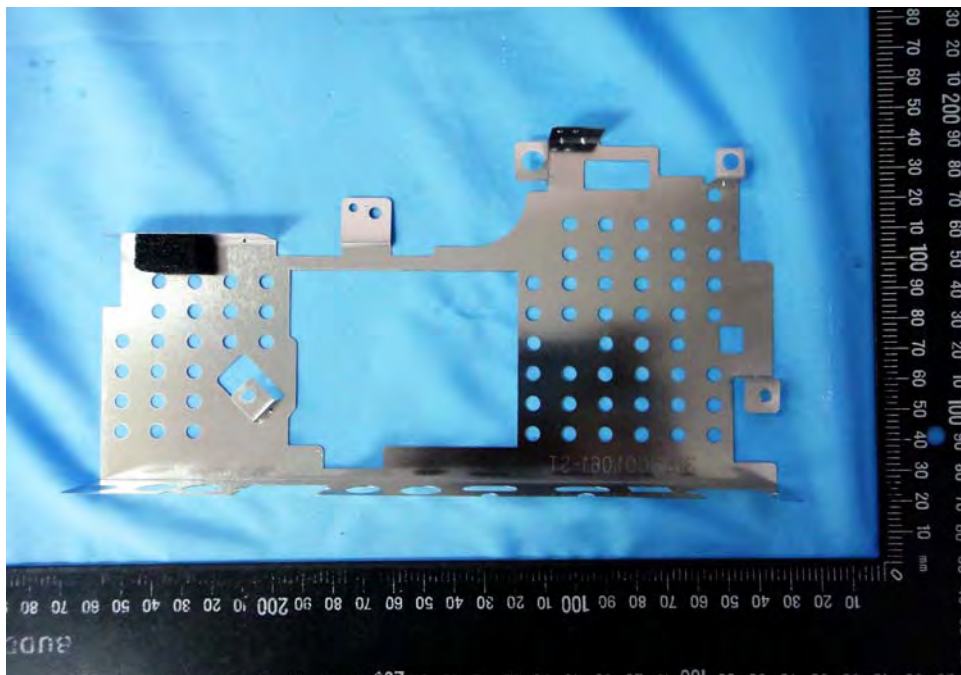
(8) EUT Photo



(9) EUT Photo



(10) EUT Photo



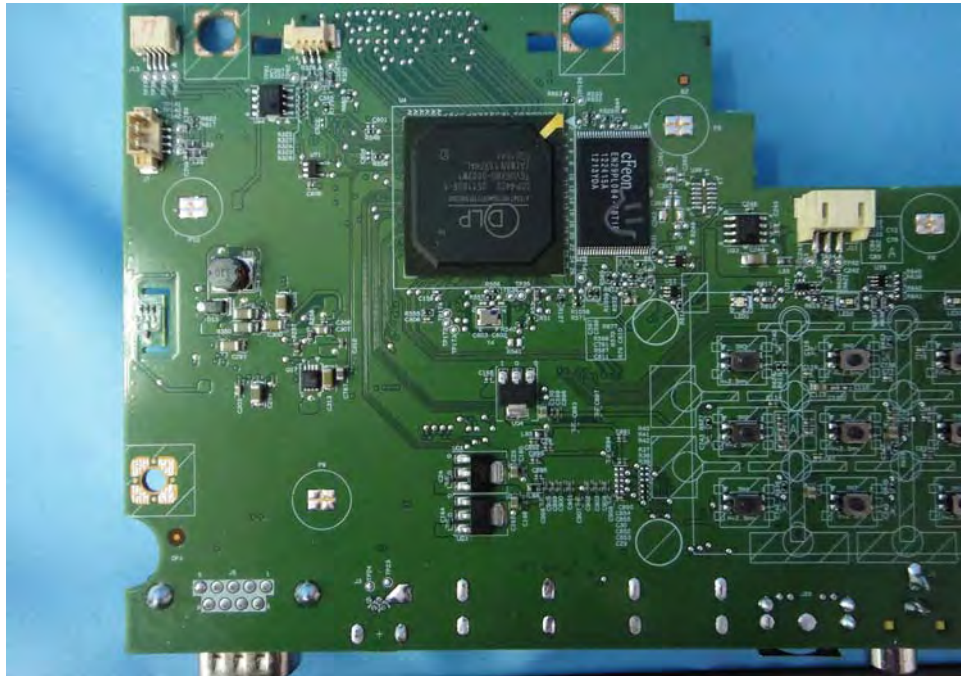
(11)EUT Photo



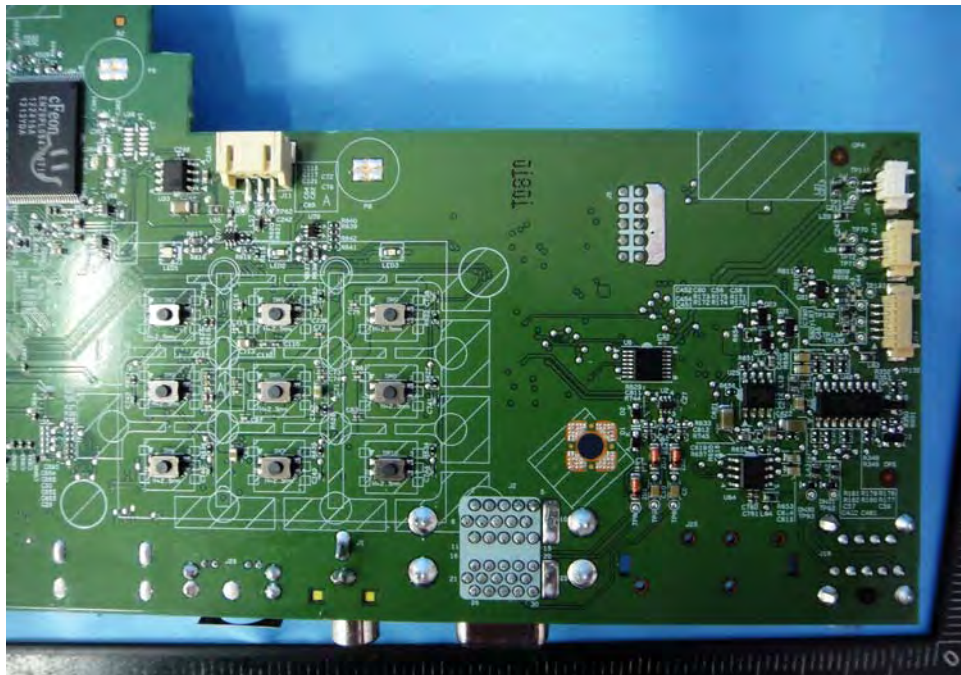
(12)EUT Photo



(13)EUT Photo



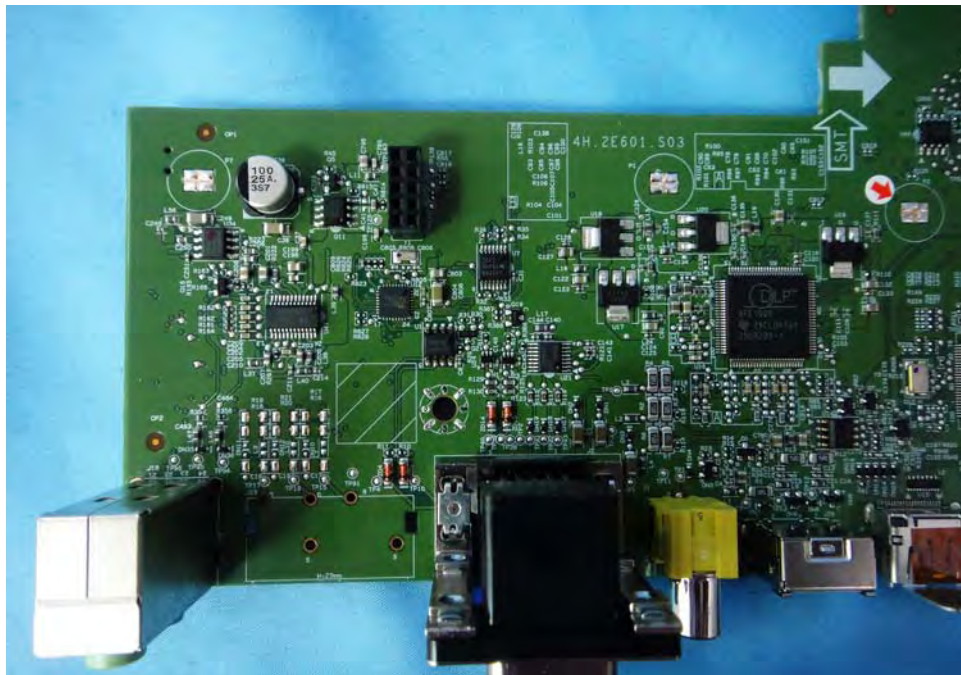
(14)EUT Photo



(15)EUT Photo



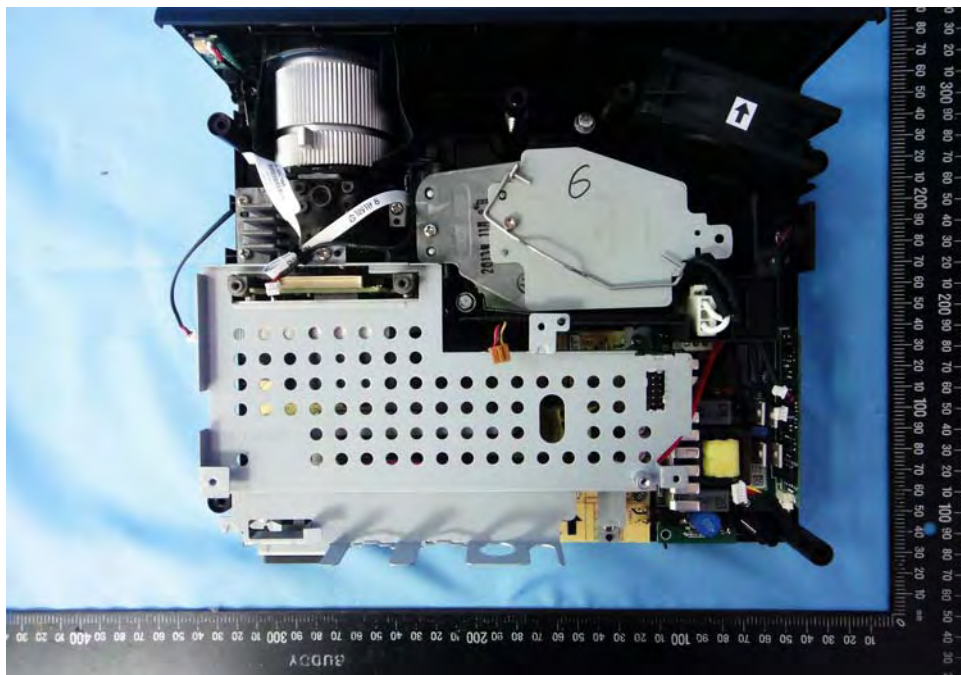
(16)EUT Photo



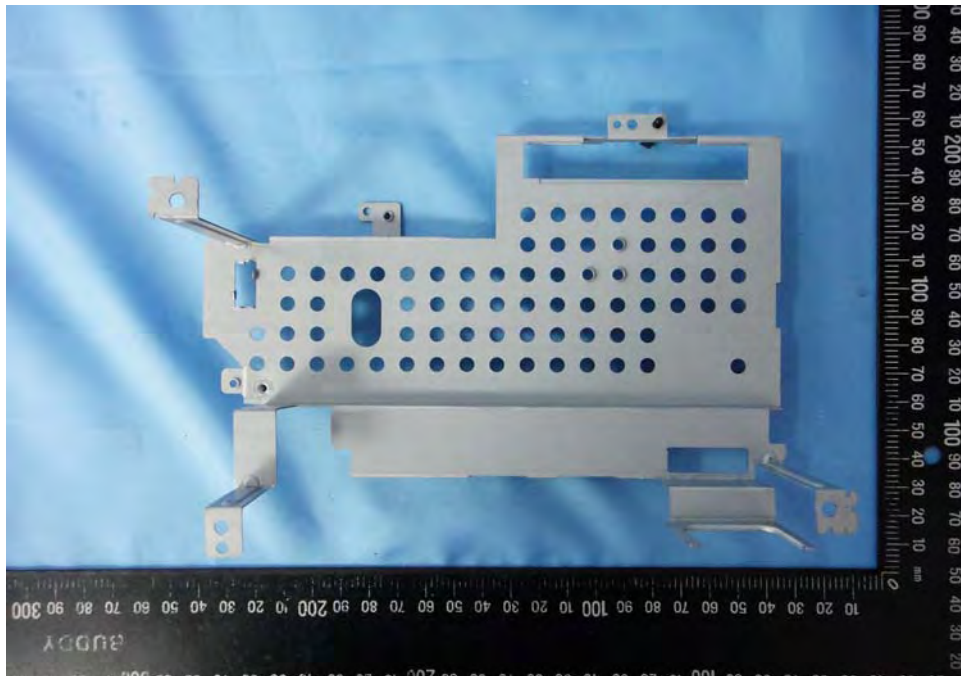
(17)EUT Photo



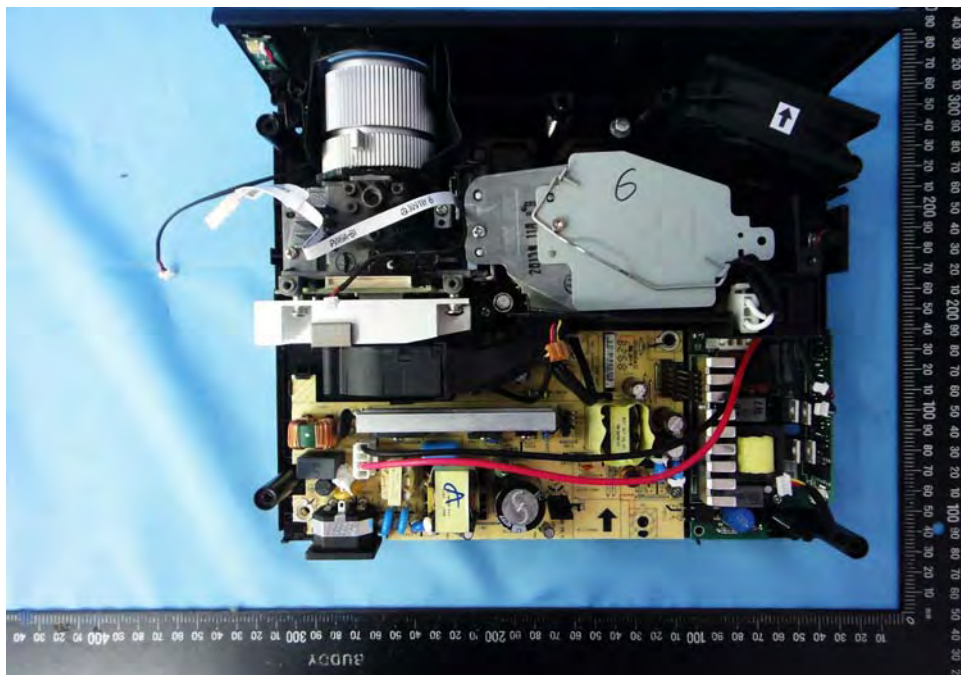
(18)EUT Photo



(19)EUT Photo



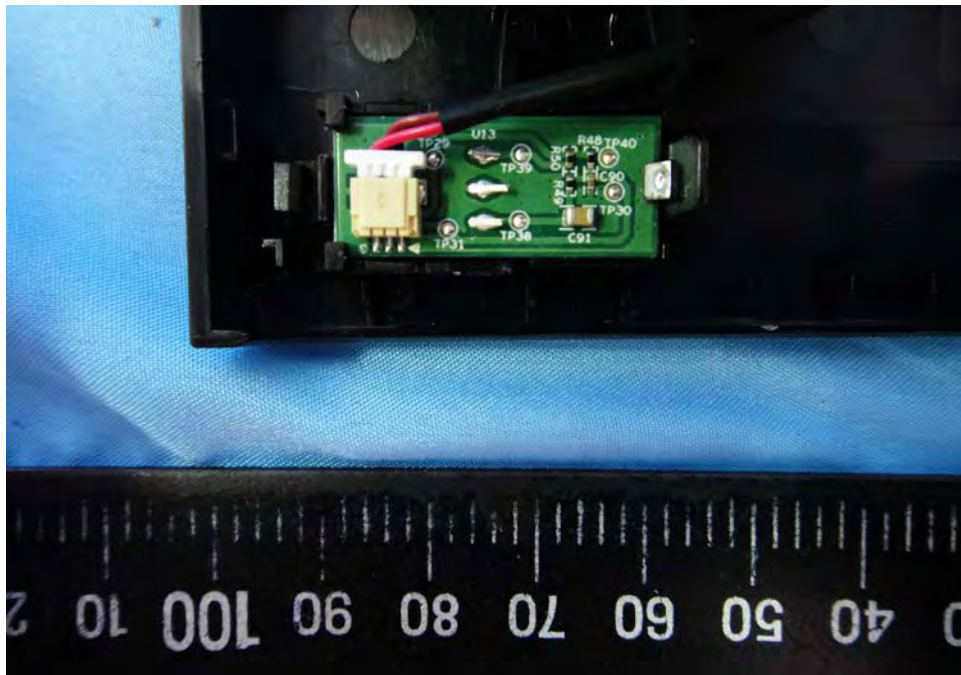
(20)EUT Photo



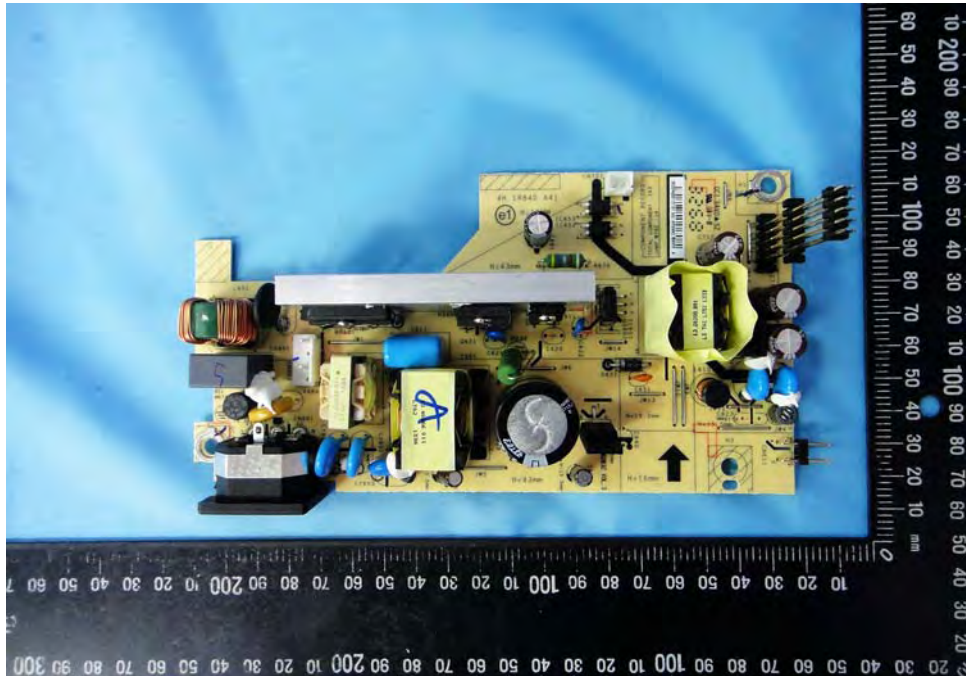
(21)EUT Photo



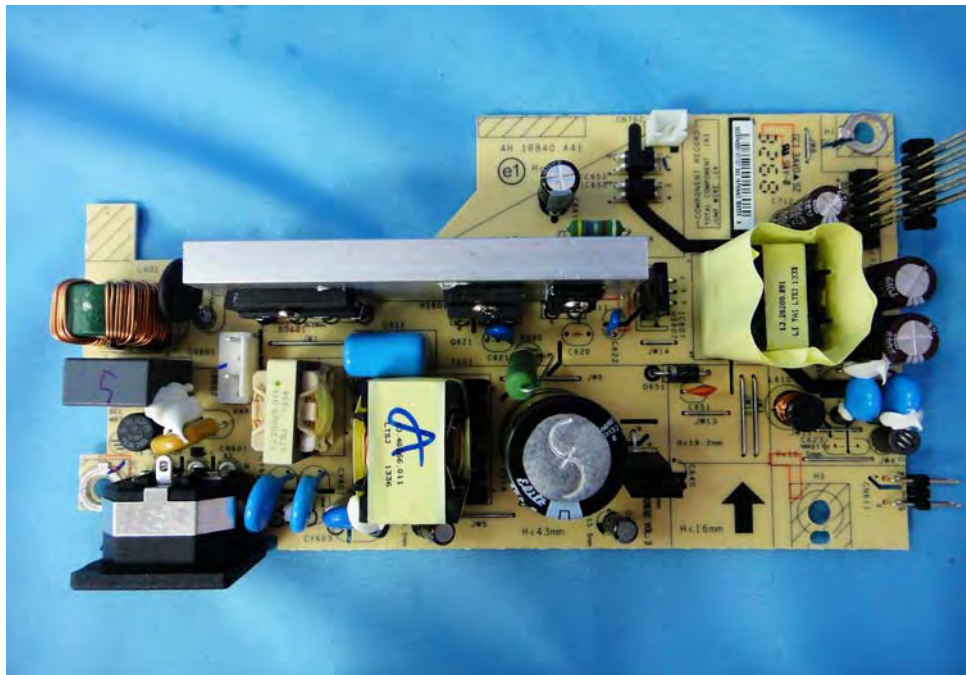
(22)EUT Photo



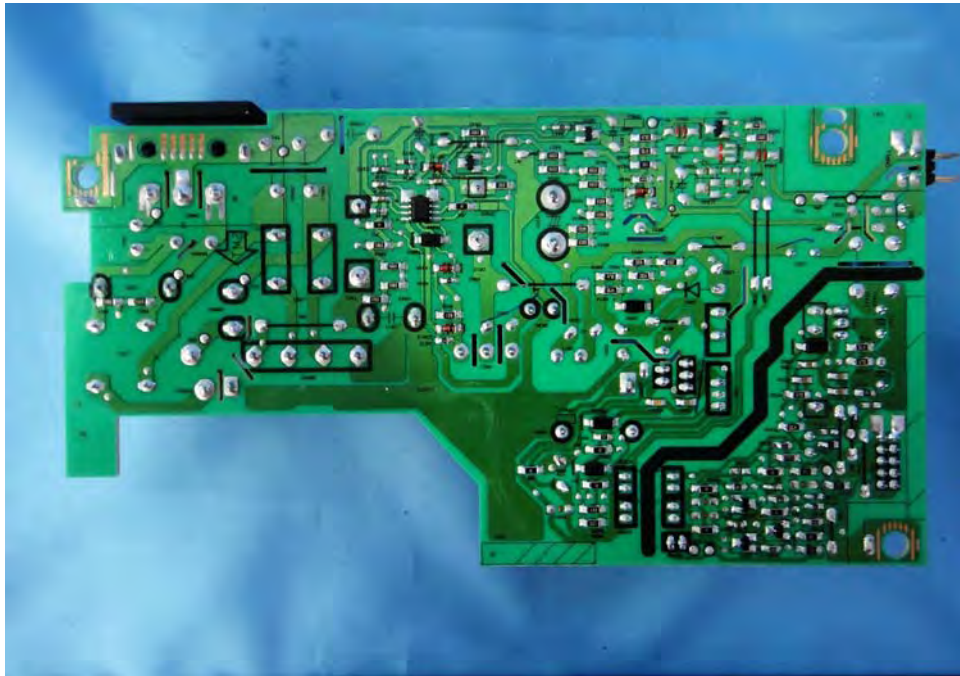
(23)EUT Photo



(24)EUT Photo



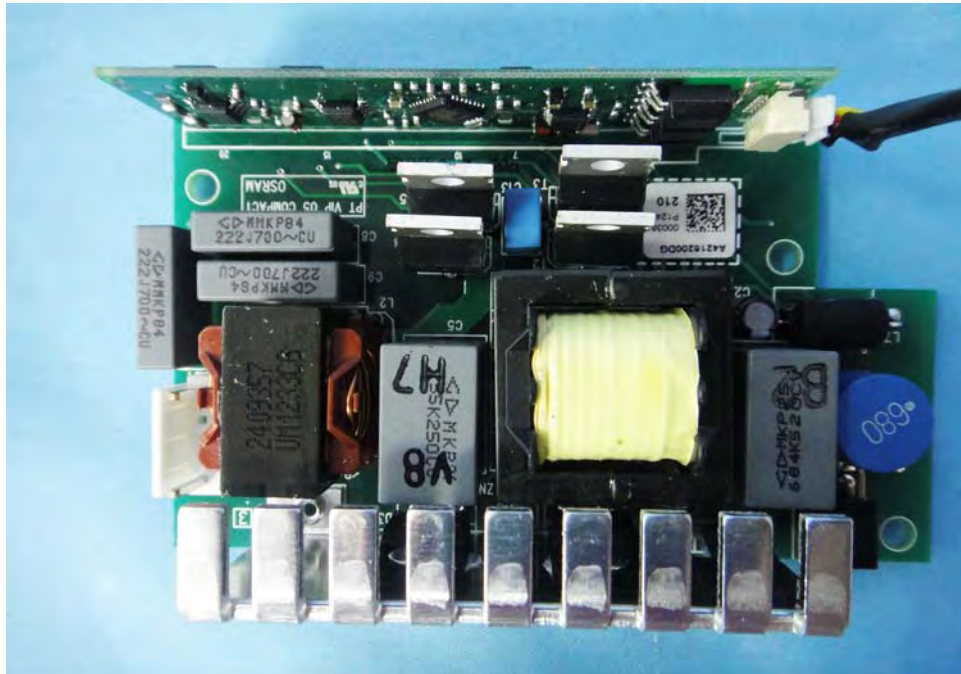
(25)EUT Photo



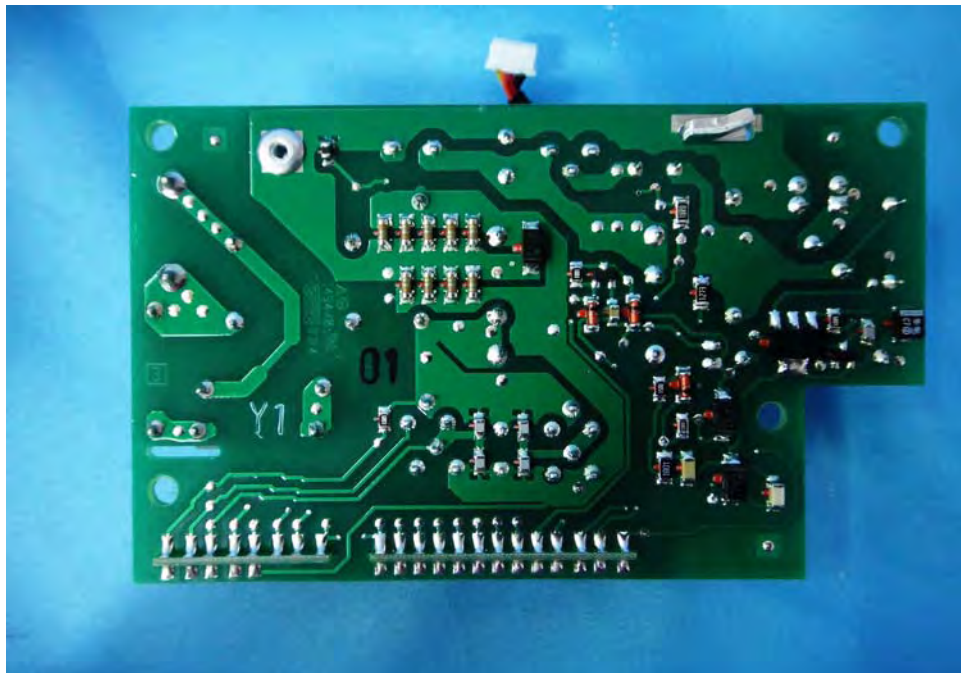
(26)EUT Photo



(27)EUT Photo



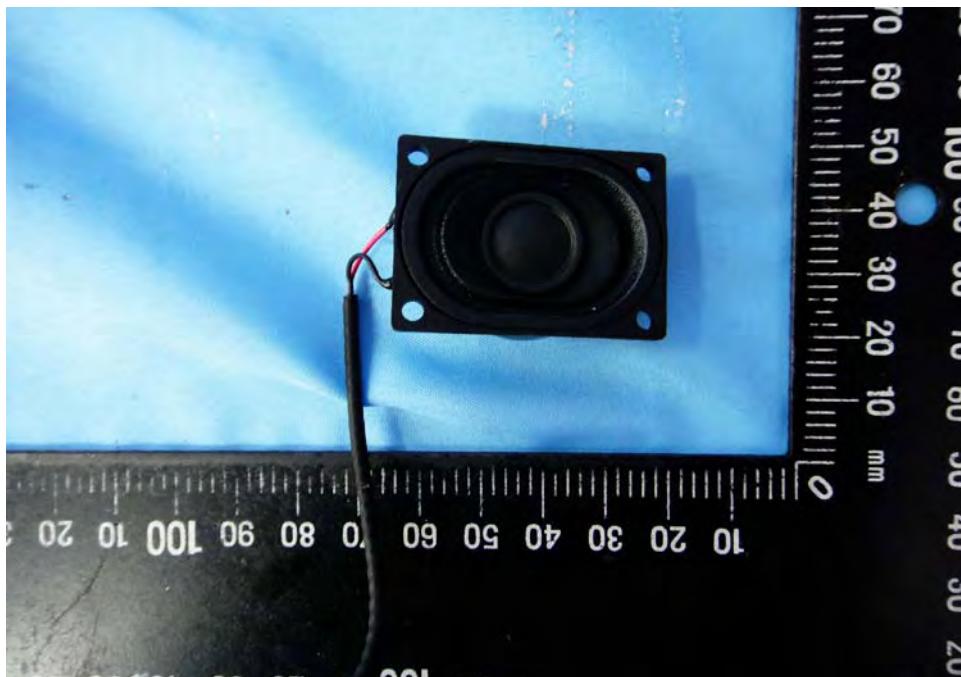
(28)EUT Photo



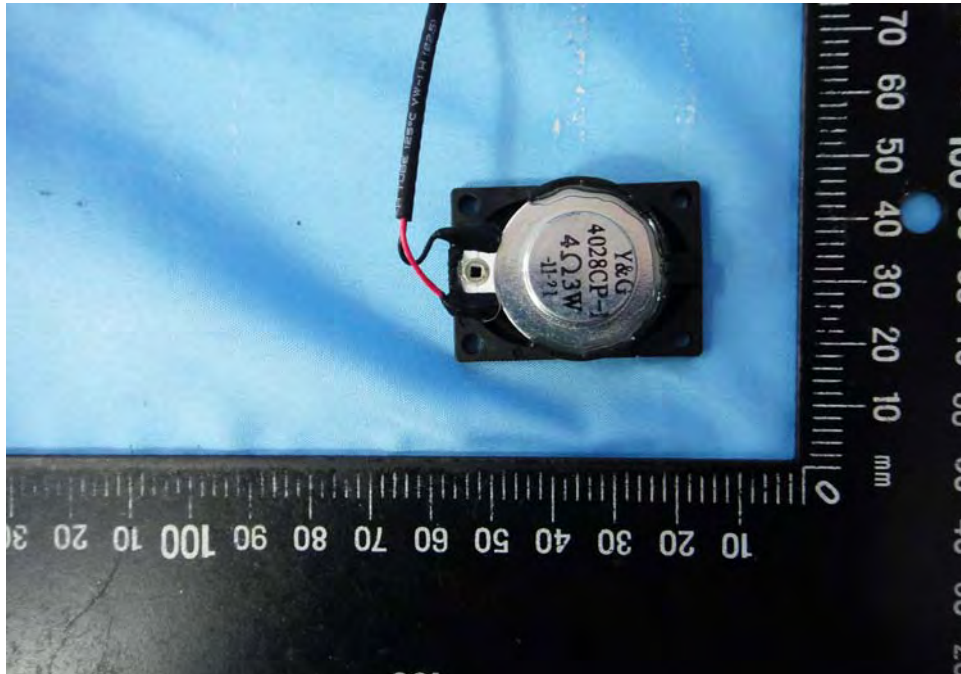
(29)EUT Photo



(30)EUT Photo



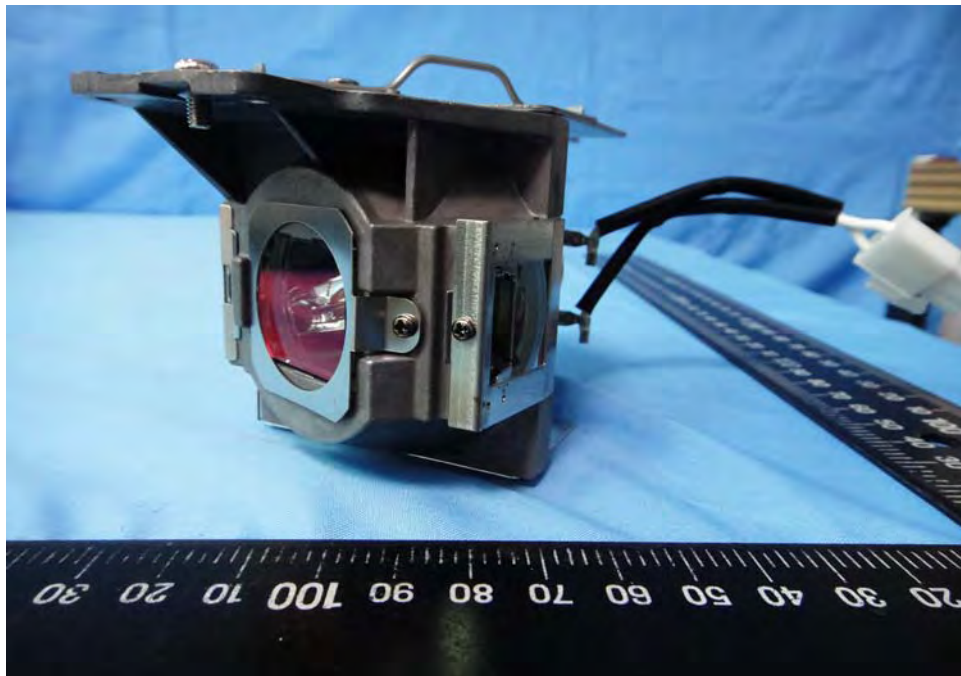
(31)EUT Photo



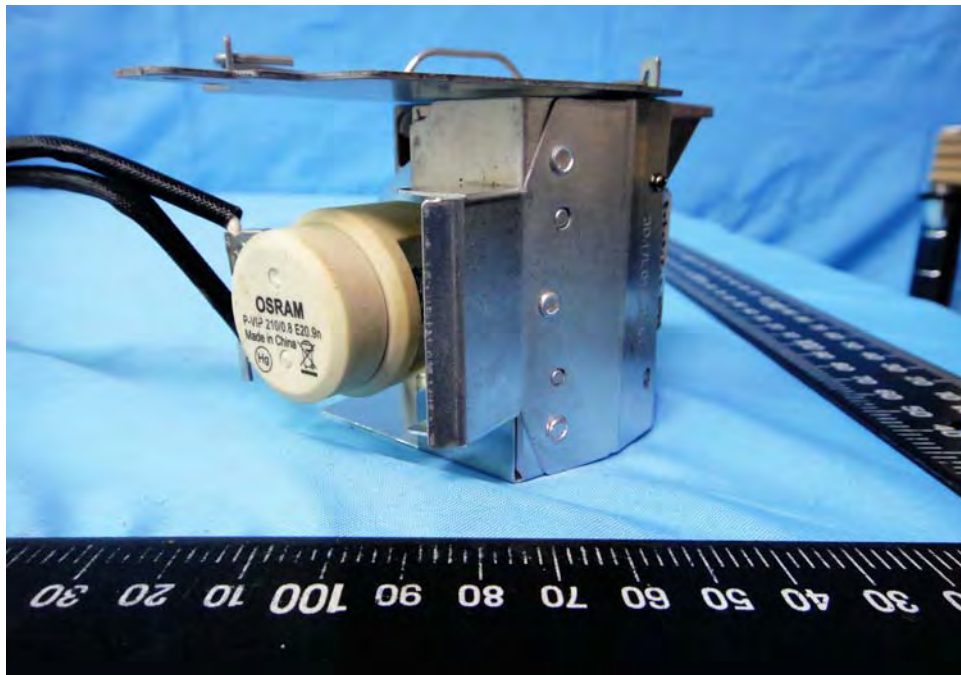
(32)EUT Photo



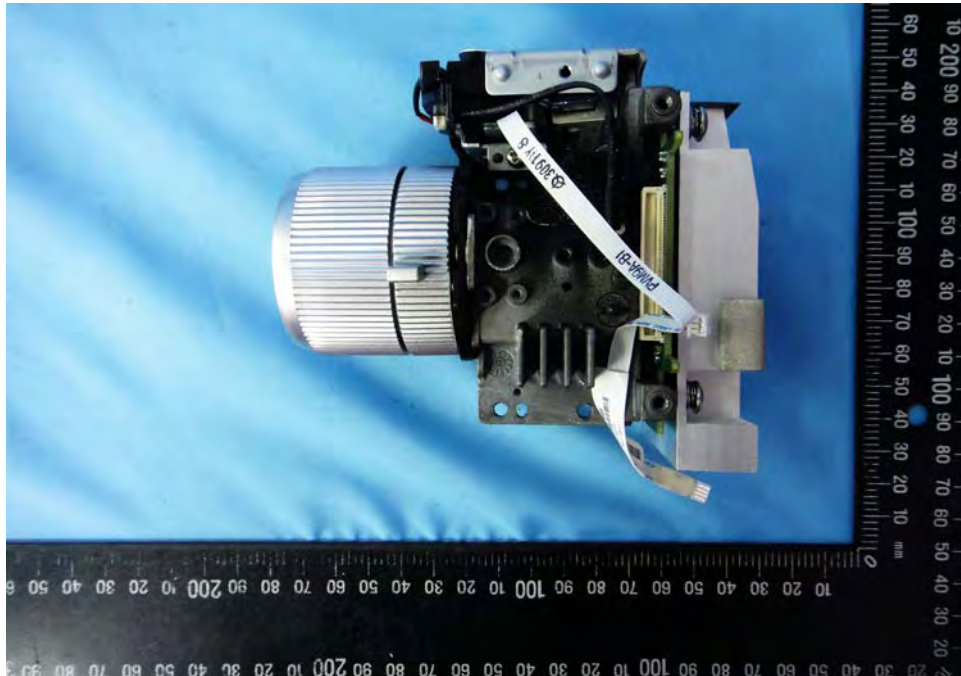
(33)EUT Photo



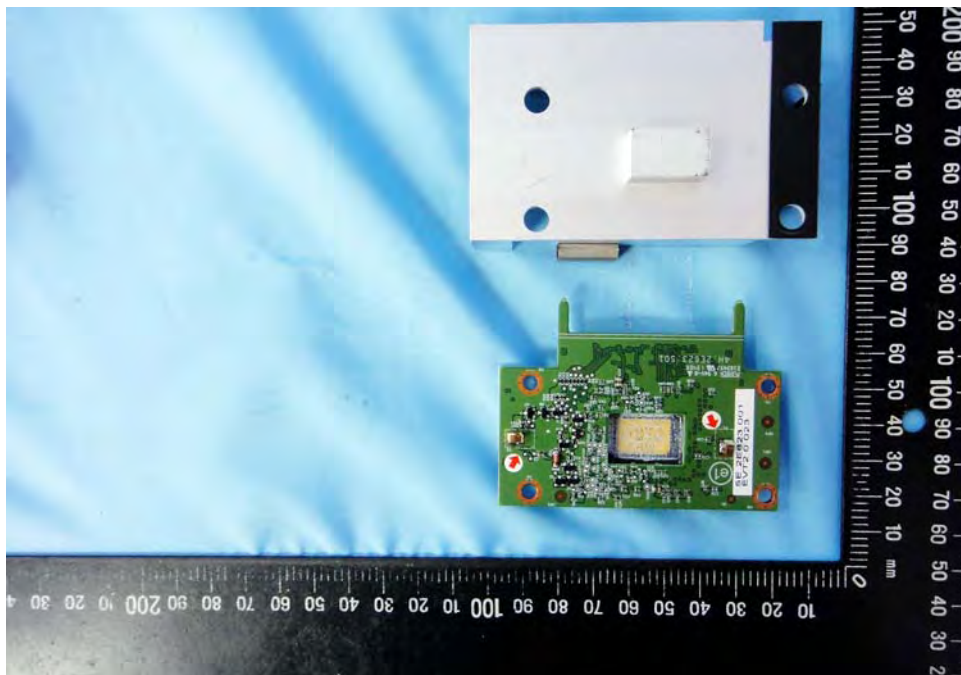
(34)EUT Photo



(35)EUT Photo



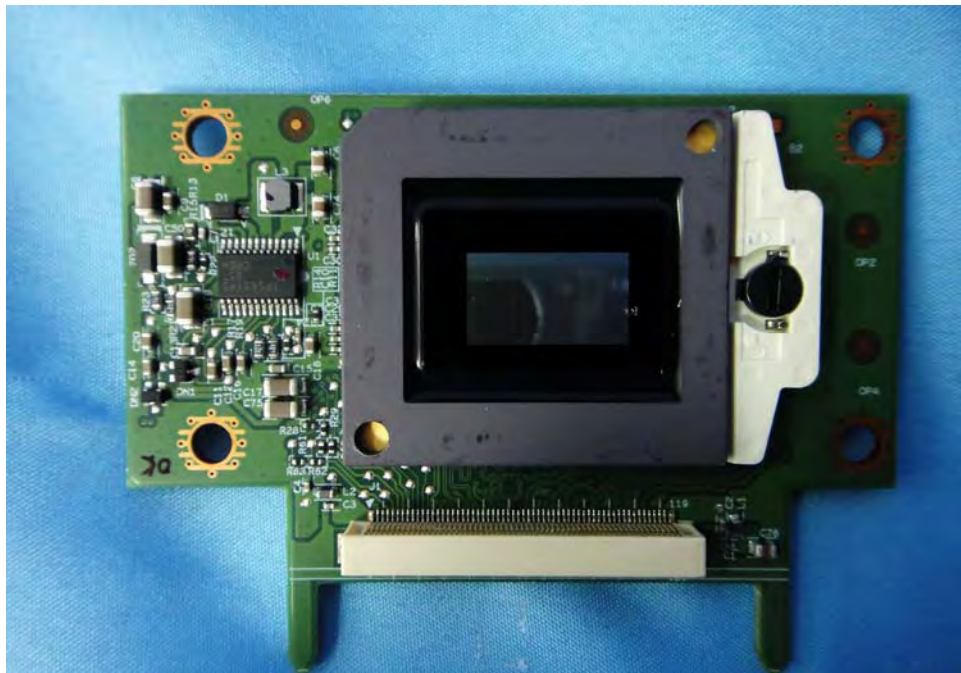
(36)EUT Photo



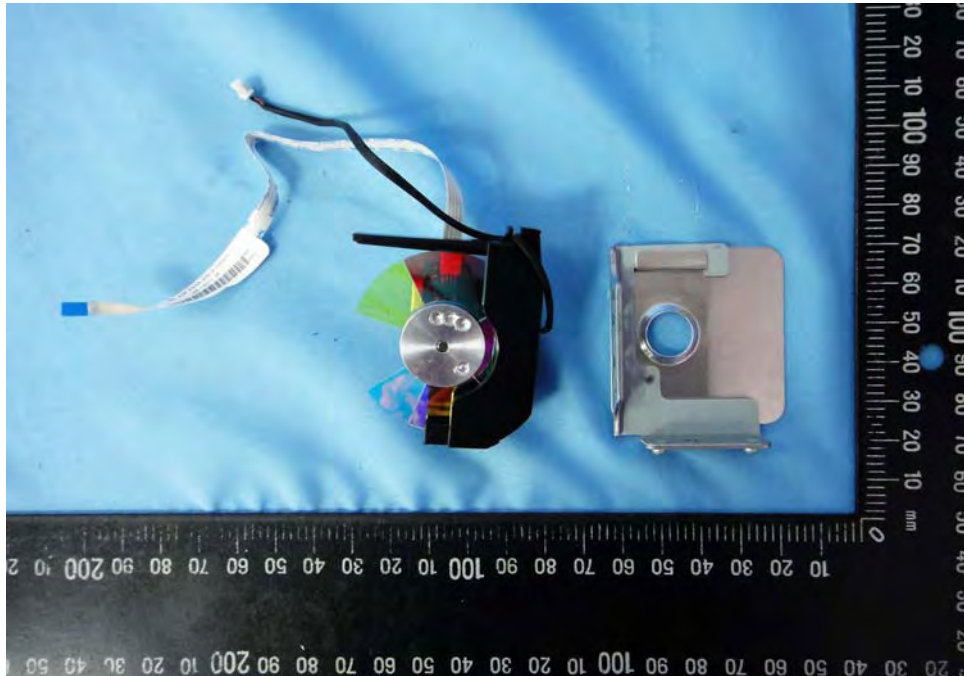
(37)EUT Photo



(38)EUT Photo



(39)EUT Photo



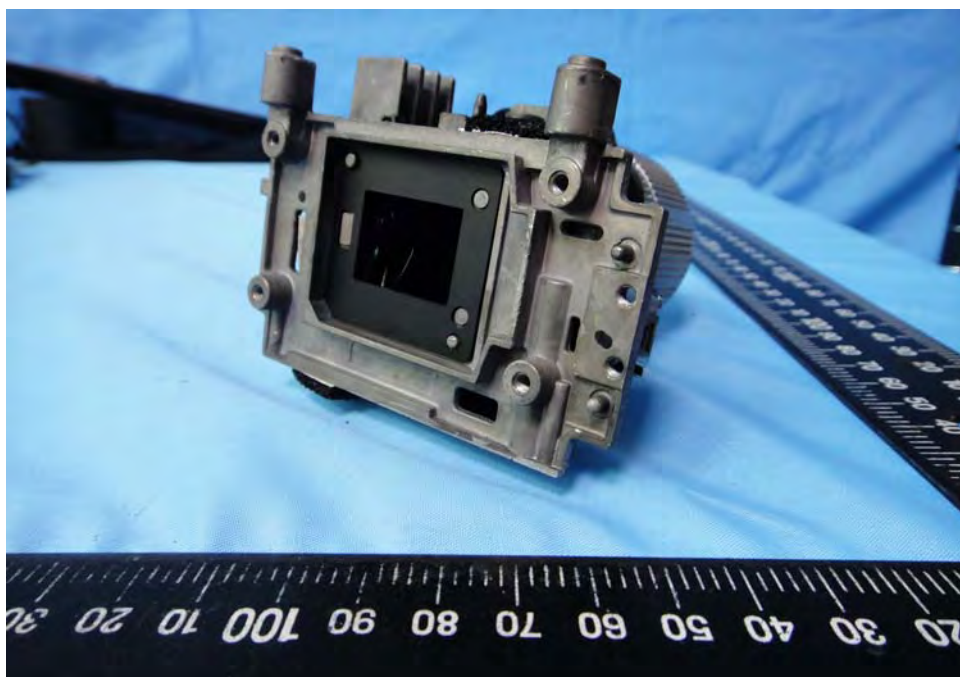
(40)EUT Photo



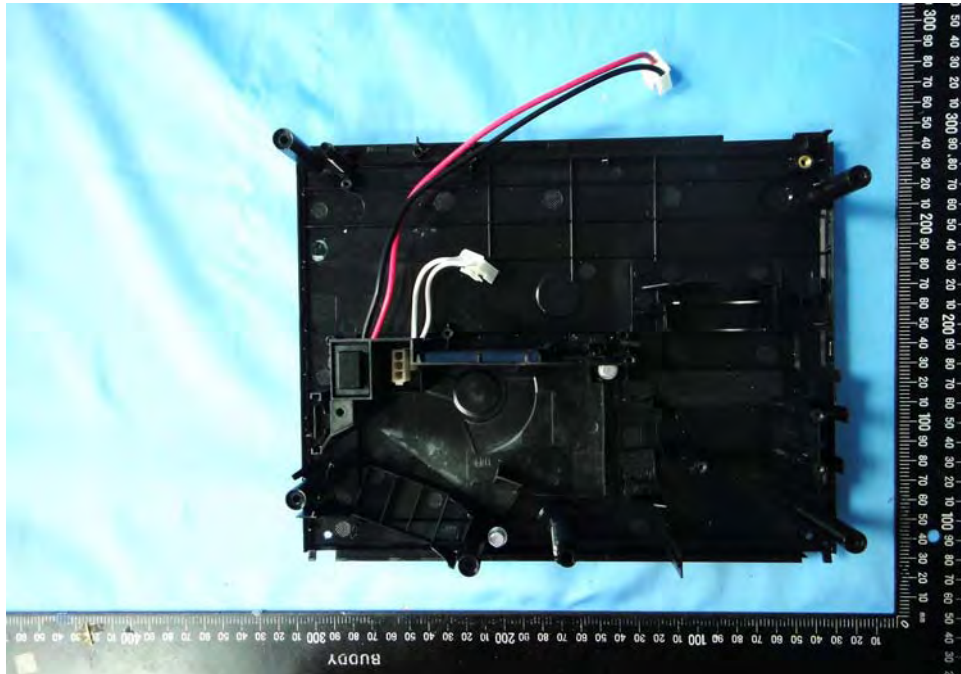
(41)EUT Photo



(42)EUT Photo



(43)EUT Photo



(44)EUT Photo



(45)EUT Photo



(46)EUT Photo



(47)EUT Photo



(48)EUT Photo



(49)EUT Photo

